

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF NEW YORK

IN RE PAYMENT CARD INTERCHANGE FEE
AND MERCHANT DISCOUNT ANTITRUST
LITIGATION

FILED UNDER SEAL

MEMORANDUM & ORDER
05-MD-1720 (MKB)

This document refers to: ALL ACTIONS

MARGO K. BRODIE, United States District Judge:

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In December of 2020, several parties¹ in this multidistrict litigation filed a combined five motions for summary judgment and partial summary judgment,² and nineteen motions to exclude

¹ The moving Plaintiffs consist of (1) the Equitable Relief Class, which was certified under Federal Rule of Civil Procedure 23(b)(2), *DDMB, Inc. v. Visa, Inc.*, No. 05-MD-1720, 2021 WL 6221326 (E.D.N.Y. Sept. 27, 2021); (2) the Target Plaintiffs, the 7-Eleven Plaintiffs, and The Home Depot (collectively, the “Direct Action Plaintiffs”), which are not members of a class, *In re Payment Card Interchange Fee & Merch. Disc. Antitrust Litig.*, No. 05-MD-1720, 2017 WL 4325812, at *3 (E.D.N.Y. Sept. 27, 2017), *order set aside on other grounds*, No. 05-MD-1720, 2018 WL 4158290 (E.D.N.Y. Aug. 30, 2018); and (3) Elgin Ave. Recovery, LLC, which has filed its own separate complaint, (Elgin’s Am. Compl., annexed to Mot. for Leave to File Under Seal as Ex. A, Docket Entry No. 8222-1), and has agreed to rely on the 7-Eleven Plaintiffs’ experts at trial except in regards to damages, (Letter dated May 26, 2020, Docket Entry No. 7949).

The Defendants consist of the Visa and Mastercard networks as well as “various issuing and acquiring banks” (the “Bank Defendants”). *In re Payment Card Interchange Fee & Merch. Disc. Antitrust Litig.*, 330 F.R.D. 11, 18 (E.D.N.Y. 2019). “At the beginning of this litigation . . . Visa and Mastercard were effectively owned by their member banks.” *Barry’s Cut Rate Stores Inc. v. Visa Inc.*, No. 05-MD-1720, 2019 WL 7584728, at *3 (E.D.N.Y. Nov. 20, 2019). In 2006 and 2008, “Mastercard and Visa, respectively, made initial public offerings (‘IPOs’), becoming publicly traded individual companies.” *Id.* However, Plaintiffs claim that the alleged anticompetitive practices have “continued despite the networks’ and the banks’ more recent attempt to avoid antitrust liability by restructuring the Visa and [Mastercard] corporate entities.” *Id.*; (Equitable Relief Class Action Compl. (“Equitable Relief Class Compl.”) ¶ 1, annexed to Szanyi Decl. as SJDX4, Docket Entry No. 8520-1; *see also* Sixth Amended 7-Eleven Compl. (“7-Eleven Compl.”) ¶¶ 78–79, annexed to Szanyi Decl. as SJDX1, Docket Entry No. 8520-1 (stating that “the IPOs did not change the essential character of” Visa and Mastercard’s “combinations in restraint of trade”); Second Amended Target Compl. (“Target Compl.”) ¶¶ 78–79, annexed to Szanyi Decl. as SJDX3, Docket Entry No. 8520-1 (same); First Amended The Home Depot. Compl. (“Home Depot Compl.”) ¶¶ 120–34, annexed to Szanyi Decl. as SJDX2, Docket Entry No. 8520-1 (claiming that Visa’s and Mastercard’s “post-IPO structures . . . were designed to perpetuate, and not to disturb, the anticompetitive conduct detailed in this Complaint”).)

² (Defs.’ Notice of Mot. for Summ. J. (“Defs.’ Mot.”), Docket Entry No. 8067; Notice of Target Pls.’ Mot. for Partial Summ. J. (“Target Pls.’ Mot.”), Docket Entry No. 8097; Equitable Relief Class Pls.’ Notice of Mot. for Partial Summ. J. (“Equitable Relief Class Mot.”), Docket Entry No. 8150; Notice of 7-Eleven Pls.’ & The Home Depot’s Mot. for Partial Summ. J. (“7-Eleven & The Home Depot Mot.”), Docket Entry No. 8184; Defs.’ Notice of Mot. to Exclude

expert testimony.³ Because of the volume of motions, the Court decides the motions to exclude in six separate opinions based primarily on the parties who filed the motion.

In this Memorandum and Order, the Court decides the motions to exclude expert testimony filed by the Target Plaintiffs, which seek to exclude (1) opinions from Dr. Andres V.

Pls.’ Expert Opinions on EMV Chargebacks & for Partial Summ. J. (“EMV Mot.”), Docket Entry No. 8138).

³ (Defs.’ Notice of Mot. to Excl. Opinions of Dr. Reto Kohler (“Kohler Mot.”), Docket Entry No. 8101; Defs.’ Notice of Mot. to Excl. in Part Opinions of Prof. Robert G. Harris (“Harris Mot.”), Docket Entry No. 8104; Defs.’ Notice of Mot. to Excl. in Part Section 1 Opinions of Prof. Jerry Hausman (“Hausman Section 1 Mot.”), Docket Entry No. 8081; Visa and Bank Defs.’ Notice of Mot. to Excl. in Part Section 2 & Debit Opinions of Prof. Jerry Hausman (“Hausman Section 2 Mot.”), Docket Entry No. 8084; Defs.’ Notice of Mot. to Excl. in Part Opinions of Prof. Joseph E. Stiglitz (“Stiglitz Mot.”), Docket Entry No. 8074; Defs.’ Notice of Mot. to Excl. Opinions of Mansour Karimzadeh (“Karimzadeh Mot.”), Docket Entry No. 8077; Visa and Bank Defendants’ Notice of Mot. to Excl. Expert Testimony Concerning Visa’s Fixed Acquirer Network Fee (“FANF Mot.”), Docket Entry No. 8070; Defs.’ Notice of Mot. to Excl. Rep. & Testimony of the 23(b)(2) Pls.’ Expert Dennis W. Carlton (“Carlton Mot.”), Docket Entry No. 8086; Defs.’ Notice of Mot. to Excl. Opinions of Stephen C. Mott (“Mott Mot.”), Docket Entry No. 8080; Defs.’ Notice of Mot. to Excl. Opinions of David P. Stowell (“Stowell Mot.”), Docket Entry No. 8075; Notice of Direct Action Pls.’ Mot. to Excl. Portions of Rep. & Opinions of Def. Expert R. Garrison Harvey (“Harvey Mot.”), Docket Entry No. 8090; Notice of Direct Action Pls.’ Mot. to Excl. Rep. & Opinions of Def. Expert Glenn Hubbard (“Hubbard Mot.”), Docket Entry No. 8108; Notice of Direct Action Pls.’ Mot. to Excl. Rep. & Opinions of Def. Expert Barbara E. Kahn (“Kahn Mot.”), Docket Entry No. 8114; Notice of Direct Action Pls.’ Mot. to Excl. Rep. & Opinions of Def. Expert David J. Teece (“Teece Mot.”), Docket Entry No. 8135; Notice of Direct Action Pls.’ Mot. to Excl. Portions of Rep. & Opinions of Def. Expert David P. Kaplan (“Kaplan Mot.”), Docket Entry No. 8207; Notice of Mot. to Excl. the Rep. & Opinions of Def. Expert Andres V. Lerner (“Lerner Mot.”), Docket Entry No. 8121; Notice of Target Pls.’ Mot. to Excl. Portions of Rep. & Opinions of Def. Expert Kevin M. Murphy (“Target Murphy Mot.”), Docket Entry No. 8129; Notice of The Home Depot & 7-Eleven Pls.’ Mot. to Excl. Portions of Rep. & Opinions of Def. Expert Kevin M. Murphy (“Home Depot & 7-Eleven Murphy Mot.”), Docket Entry No. 8181; Notice of 7-Eleven Pls.’ & The Home Depot’s Mot. to Excl. Portions of Rep. & Opinions of Def. Experts Marc Cleven & Stuart J. Fiske (“Cleven & Fiske Mot.”), Docket Entry No. 8200.)

Lerner and (2) opinions from Professor Kevin M. Murphy. For the reasons set forth below, the Court denies the motions to exclude.⁴

I. Background

For the relevant factual background, the Court refers the reader to its Memorandum and Order addressing the motions to exclude expert testimony filed by all Defendants to wholly or partially exclude the opinions of Dr. Reto Kohler, Professor Robert G. Harris, and Professor Joseph E. Stiglitz, and the Section 1 opinions of Professor Jerry Hausman. (Mem. & Order, Docket Entry No. 8714.)

II. Discussion

a. Standard of review

Rule 702 provides that “[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if: (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert has reliably applied the principles and methods to the facts of the case.” Fed. R. Evid. 702.⁵ “While the proponent of expert testimony has the burden of establishing by a

⁴ The Court separately decides (1) the first four motions to exclude filed by all Defendants, (2) the second four motions to exclude filed by all Defendants, (3) the two motions to exclude filed by Visa and the Bank Defendants, (4) the two motions to exclude filed by the 7-Eleven Plaintiffs and The Home Depot, and (5) the five motions to exclude filed by the Direct Action Plaintiffs.

⁵ In June of 2022, the Judicial Conference Committee on Rules of Practice and Procedure voted to approve two amendments to Rule 702. *See* Colleen Cochran, *The Process, Progression, and Potential Ramifications of the Rule 702 Amendment*, BUSINESS LAW TODAY (Sept. 5, 2022), <https://businesslawtoday.org/2022/09/rule-702-amendment-process-progression->

preponderance of the evidence that the admissibility requirements of Rule 702 are satisfied, . . . the district court is the ultimate gatekeeper.” *United States v. Jones*, 965 F.3d 149, 161 (2d Cir. 2020) (alteration in original) (quoting *United States v. Williams*, 506 F.3d 151, 160 (2d Cir. 2007)); *see also United States v. Farhane*, 634 F.3d 127, 158 (2d Cir. 2011) (“The law assigns district courts a ‘gatekeeping’ role in ensuring that expert testimony satisfies the requirements of Rule 702.” (citation omitted)), *cert. denied*, 565 U.S. 1088 (2011).

Before permitting a person to testify as an expert under Rule 702, the court must make the following findings: (1) the witness is qualified to be an expert; (2) the opinion is based upon reliable data and methodology; and (3) the expert’s testimony on a particular issue will “assist the trier of fact.” *Nimely v. City of New York*, 414 F.3d 381, 396–97 (2d Cir. 2005); *see also United States v. Napout*, 963 F.3d 163, 187–88 (2d Cir. 2020) (explaining that the court is tasked with “ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand” (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993)));

potential-ramifications/. One of the two proposed amendments changes the text of the rule to read: “A witness who is qualified as an expert by knowledge, skill, experience, training or education may testify in the form of an opinion or otherwise if *the proponent demonstrates to the court that it is more likely than not that. . .*” Committee on Rules of Practice and Procedure, Agenda Book, Tab 7A, at 891 (June 7, 2022), https://www.uscourts.gov/sites/default/files/2022-06_standing_committee_agenda_book_final.pdf. The second proposed amendment changes part (d) from “the expert has reliably applied the principles and methods to the facts of the case” to “the expert’s opinion reflects a reliable application of the principles and methods to the facts of the case.” *Id.* at 891–92.

If approved by the Judicial Conference and the United States Supreme Court, and not rejected, modified, or deferred by Congress, the amendments will take effect in December of 2023. Cochran, *supra*. Because the amendments are not in force at the time this decision is published, the Court does not apply the amended version of Rule 702. However, in deciding these motions, the Court is mindful of the proposed amendments’ purpose of “emphasiz[ing] that the court must focus on the expert’s opinion, and must find that the opinion actually proceeds from a reliable application of the methodology” and “explicitly weaving the Rule 104(a) standard into the text of Rule 702.” Committee on Rules of Practice and Procedure, *supra*, at 871.

United States v. Cruz, 363 F.3d 187, 192 (2d Cir. 2004) (same). In *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, the Supreme Court set forth a list of factors, in addition to the criteria set forth in Rule 702, that bear on the determination of reliability: “(1) whether a theory or technique has been or can be tested; (2) ‘whether the theory or technique has been subjected to peer review and publication;’ (3) the technique’s ‘known or potential rate of error’ and ‘the existence and maintenance of standards controlling the technique’s operation;’ and (4) whether a particular technique or theory has gained general acceptance in the relevant scientific community.” *Williams*, 506 F.3d at 160 (quoting *Daubert*, 509 U.S. at 593–94); *see also United States v. Morgan*, 675 F. App’x 53, 55 (2d Cir. 2017) (same); *Zaremba v. Gen. Motors Corp.*, 360 F.3d 355, 358 (2d Cir. 2004) (same). The *Daubert* inquiry for reliability is a “flexible one” and does not “constitute a definitive checklist or test,” and thus, the *Daubert* factors “neither necessarily nor exclusively appl[y] to all experts or in every case.” *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141, 150 (1999) (citation omitted).

The district court is afforded “the same broad latitude when it decides *how* to determine reliability as it enjoys [with] respect to its ultimate reliability determination.” *Id.* at 142. Expert testimony should be excluded if it is “speculative or conjectural.” *Jones*, 965 F.3d at 162 (quoting *Boucher v. U.S. Suzuki Motor Corp.*, 73 F.3d 18, 21 (2d Cir. 1996)); *Major League Baseball Props., Inc. v. Salvino, Inc.*, 542 F.3d 290, 311 (2d Cir. 2008) (same). When an expert’s opinion is based on data or methodologies “that are simply inadequate to support the conclusions reached, *Daubert* and Rule 702 mandate the exclusion of that unreliable opinion testimony.” *Ruggiero v. Warner-Lambert Co.*, 424 F.3d 249, 253 (2d Cir. 2005) (citation omitted); *see also Nimely*, 414 F.3d at 396 (“[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence which is connected to existing data only by the *ipse*

dixit of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.” (alteration in original) (quoting *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997))). Nevertheless, “in accordance with the liberal admissibility standards of the Federal Rules of Evidence, only serious flaws in reasoning or methodology will warrant exclusion.” *In re Fosamax Prods. Liab. Litig.*, 645 F. Supp. 2d 164, 173 (S.D.N.Y. 2009) (citing *Amorgianos v. Nat’l R.R. Passenger Corp.*, 303 F.3d 256, 267 (2d Cir. 2002)); see also *Adams v. Liberty Mar. Corp.*, 407 F. Supp. 3d 196, 202 (E.D.N.Y. 2019) (same).

b. Motion to exclude report and opinions of Andres V. Lerner

The Target Plaintiffs move to exclude the report and opinions of Andres V. Lerner (Lerner Mot.), an expert witness for Visa and the Bank Defendants. (Lerner Mot.; Videotaped Dep. of Andres Lerner (“Lerner Dep.”) 343:7–11, annexed to Wilson Decl. as Ex. 2, Docket Entry No. 8499-2; Defs.’ Mem. in Opp’n to Target Pls.’ Mot. to Exclude Rep. & Opinions of Def. Expert Andres Lerner (“Lerner Excl. Opp’n”) 1, Docket Entry No. 8205.)

i. Dr. Lerner’s background and expert report

Dr. Lerner has master’s and Ph.D. degrees in economics and is an executive vice president at Compass Lexecon, an economics consulting firm. (Report of Dr. Andres V. Lerner (“Lerner Rep.”) ¶ 1, annexed as Ex. 1 to Wilson Decl., Docket Entry No. 8499-1.) He has provided economic testimony in legal cases and regulatory proceedings, served as a consultant to multiple government agencies, published in economic and legal journals, and taught economics as a visiting professor. (*Id.* ¶¶ 2–5.)

Dr. Lerner’s report focuses on claims by the 7-Eleven Plaintiffs, The Home Depot and the Target Plaintiffs. (*Id.* ¶ 6.) Because “the 7-Eleven Plaintiffs and Home Depot have the greatest focus on market power in and monopolization of the debit market,” which Dr. Lerner

has “been asked specifically to address,” he has “concentrated [his] analysis primarily on the claims in those complaints, as well as the reports of their economic experts.” (*Id.*)

Dr. Lerner’s assignment in this case was “to provide an economic assessment of Plaintiffs’ allegations pertaining to Visa’s conduct, focusing on claims related to monopolization of the debit market, EMV, and tokenization.” (*Id.* ¶ 20.) He was also asked “to provide more general analysis of the economics of the payment card (and non-card) systems, the nature of competition in the payment industry, and the role of interchange and network fees and various payment card system rules.” (*Id.*) Dr. Lerner was asked to review Professor Hausman’s and Mr. Karimzadeh’s⁶ expert reports “on issues relating to Plaintiffs’ debit monopolization and EMV claims” and was also “asked to review the expert reports of the other experts . . . and evaluate certain related analyses and conclusions.” (*Id.* ¶ 21.) He states that the “opinions and critiques in [his] report apply to [these experts’] work and to all cases even though [he] may not mention those experts by name and even though [he] may focus [his] discussion on a particular expert.” (*Id.*)

Dr. Lerner’s report includes sections on the background of the payment card industry, (*id.* ¶¶ 23–84); the economics of two-sided payment card systems, (*id.* ¶¶ 85–190); the economics of market and monopoly power, (*id.* ¶¶ 191–234); Professor Hausman’s claim that Visa has market and monopoly power, which Dr. Lerner argues is inconsistent with the economic performance of the debit card industry, (*id.* ¶¶ 235–437); Plaintiffs’ experts’ claims that Visa suppressed competition from PIN-authenticated debit prior to the Durbin Amendment, which Dr. Lerner

⁶ Mansour Karimzadeh and Professor Jerry Hausman are expert witnesses for the 7-Eleven Plaintiffs and The Home Depot. (Expert Report of Mansour Karimzadeh ¶ 6, annexed to Carney Decl. as Ex. DDX8, Docket Entry No. 8544-2; Expert Report of Professor Jerry Hausman ¶ 10, annexed to Carney Decl. as Ex. DDX5, Docket Entry No. 8544-1.)

argues are economically flawed and inconsistent with the evidence, (*id.* ¶¶ 438–568); Professor Hausman’s claim that the FANF excludes competition and anticompetitively inhibits rival debit networks, which Dr. Lerner argues is economically flawed, (*id.* ¶¶ 569–675); Professor Hausman’s claim that Visa’s routing incentives anticompetitively exclude rivals, which Dr. Lerner argues is economically flawed, (*id.* ¶¶ 676–807); Professor Hausman’s claim that requiring issuers to enable PIN-authenticated Visa debit (PAVD) excludes competition from rival debit networks, which Dr. Lerner argues is economically flawed, (*id.* ¶¶ 808–73); Professor Hausman’s claim that Visa anticompetitively excluded competition from PINless debit and rival signature-authenticated products, which Dr. Lerner argues is economically flawed and inconsistent with the evidence, (*id.* ¶¶ 874–956); Professor Hausman’s and Mr. Karimzadeh’s claims that Visa’s EMV deployment anticompetitively excluded debit rivals, which Dr. Lerner argues is economically flawed and inconsistent with the evidence, (*id.* ¶¶ 957–1165); Plaintiffs’ assertion that Visa engaged in a conspiracy with Mastercard or issuing banks in order to implement EMV, which Dr. Lerner argues is unsupported by the economic evidence, (*id.* ¶¶ 1166–90); Professor Hausman’s claim that Visa’s tokenization policies were anticompetitive, which Dr. Lerner argues is economically flawed, (*id.* ¶¶ 1191–1207); Professor Hausman’s claim that Visa’s HAC rules enabled Visa to monopolize the debit card market, which Dr. Lerner argues is fundamentally flawed, (*id.* ¶¶ 1208–26); and Plaintiffs’ claim that Visa conspired to monopolize the debit market, which Dr. Lerner argues is fundamentally flawed, (*id.* ¶¶ 1227–45).

ii. Disclosure of opinions regarding Professor Harris

The Target Plaintiffs argue that Dr. Lerner’s report “fails to completely disclose his opinions relating to” the Target Plaintiffs’ expert Professor Harris’s opinions, “or the facts and

data on which Dr. Lerner relies for any such opinions.” (Mem. of Law in Supp. of Target Pls.’ Mot. to Exclude Rep. & Opinions of Def. Expert Andres V. Lerner (“Lerner Excl. Mem.”) 1, Docket Entry No. 8122.) They claim that other than the “generic statement” that his opinions and critiques apply to all of Plaintiffs’ experts, Dr. Lerner’s report “provides no further guidance on which opinions of Professor Harris he tends to rebut, the basis or reasons for such rebuttal, or the facts on which he is relying to support his rebuttal.” (*Id.* at 1–2.) Rather, he only “mentions Professor Harris a few times” and “provides no substantive rebuttal of Professor Harris’s opinions,” nor does he “identify any facts and data on which he relies for any such rebuttal.” (*Id.* at 2.) The Target Plaintiffs also claim that Dr. Lerner’s deposition testimony is “equally unhelpful” in determining what portions of his report apply to Professor Harris. (*Id.*) They argue that Professor Harris’s reply report, which responds to some of Dr. Lerner’s criticisms, also “reflects Dr. Lerner’s failure to address Professor Harris’s specific opinions and conclusions.” (Reply Mem. of Law in Further Supp. of Target Pls.’ Mot. to Exclude Rep. & Opinions of Def. Expert Andres V. Lerner (“Lerner Excl. Reply”) 5, Docket Entry No. 8125.) The Target Plaintiffs point out that the 7-Eleven Plaintiffs, but not the Target Plaintiffs, claim that Visa monopolized the debit market, and argue that therefore Professor Harris “was forced to guess” in his reply report “what topics in Dr. Lerner’s report might be relevant.” (*Id.* at 6.) Finally, the Target Plaintiffs claim that Dr. Lerner’s opinions about Professor Harris violate Rule 26(a)(2)’s “clear disclosure rules for expert witness opinions.” (Lerner Excl. Mem. at 3–4.)

In response, Defendants argue that “Rule 26(a)(2) requires only that Dr. Lerner disclose *his* opinions, not that he summarize the opinions of the other side’s experts or provide a roadmap as to how Defendants intend to frame his opinions at trial.” (Lerner Excl. Opp’n 4.) Further, they argue that Dr. Lerner’s report “is more than sufficient to enable the Target Plaintiffs and

Professor Harris to understand how the experts disagree — and indeed, Professor Harris provided a reply report addressing Dr. Lerner at substantial length.” (*Id.* at 7.) They claim that Dr. Lerner’s choice to frame his report around responses to Professor Hausman rather than Professor Harris is “easily justified in a litigation involving so many overlapping experts,” noting that “multiple experts on both sides” of this litigation have focused on a single opposing expert “to streamline the framing of pertinent issues.” (*Id.* at 8.) Defendants also note that the Target Plaintiffs “do not identify in their motion *any* portion of Dr. Lerner’s report whose applicability to their case is unclear.” (*Id.* at 9.)

At his deposition, Dr. Lerner was asked if there was a way “by looking at the face of [his] report to determine which specific opinions [he was] offering in response to Professor Harris’s original report.” (Lerner Dep. 339:22–25.) Dr. Lerner replied that the portions of his report that addressed Professor Harris by name “obviously[] pertain to Professor Harris.” (*Id.* at 340:2–5.) He added that “the vast majority of [his] opinions, both with respect to the economics of payment card networks and the vast majority of [his] opinions with respect to debit, in particular, would apply to Professor Harris.” (*Id.* at 340:6–15.) He was again asked if there was a way to determine “from the face of [his] report which specific objections apply to Professor Harris’s report.” (*Id.* at 340:21–23.) Dr. Lerner replied that “most, if not all, of [his] opinions apply to Harris.” (*Id.* at 340:25–341:2.) He noted that the Plaintiff group that has retained Professor Harris “doesn’t have a debit monopolization” claim, but that “there are claims that Visa has exercised market power in . . . what he defines as a debit card market.” (*Id.* at 341:3–8.) He concluded that “most of the conclusions here in the analysis here pertain to Harris, too, but there isn’t a way to identify paragraph by paragraph which ones apply to Harris and which ones [do] not.” (*Id.* at 341:9–13.)

As the Target Plaintiffs note, (Lerner Excl. Reply 6), they do not bring monopolization claims, (*see* Second Am. & Suppl. Compl., annexed to Szanyi Decl. as SJDX 3, Docket Entry No. 8520-1), unlike the 7-Eleven Plaintiffs, (*see* Sixth Am. Compl., annexed to Szanyi Decl. as SJDX 1, Docket Entry No. 8520-1). In the section of his reply report devoted to rebutting Dr. Lerner's analysis of Visa's market power in debit, Professor Harris writes:

I note that much of Lerner's report is directed specifically to Professor Hausman, who submitted an expert report on behalf of the 7-Eleven group of plaintiffs. . . . The 7-Eleven complaint has a separate claim that Visa monopolized the debit market. The Target Plaintiffs' complaint does not have such a claim. Nevertheless, I address Lerner's claims regarding Visa's market power in debit to the extent they apply to my analysis.

(Expert Reply Report of Robert G. Harris ("Harris Reply Rep.") ¶ 188, annexed to Carney Decl. as Ex. DDX4, Docket Entry No. 8544-1)

As described in the Court's order on the motions to exclude filed by the Direct Action Plaintiffs, the fact that Dr. Lerner's report does not specifically name or cite Professor Harris in all relevant sections does not mean that the Target Plaintiffs will be "unfair[ly] surprise[d]" by his testimony. *In re MTBE Prods. Liab. Litig.*, 643 F. Supp. 2d 471, 482 (S.D.N.Y. 2009). Although the Target Plaintiffs claim that Professor Harris "not[ed] the difficulty of ascertaining which portions of Dr. Lerner's report pertained to the monopoly claim," (Lerner Excl. Reply 6), the paragraph in Professor Harris's reply report stating that he "address[es] Lerner's claims regarding Visa's market power in debit to the extent they apply to [Professor Harris's] analysis" hardly suggests insurmountable difficulty, (Harris Reply Rep. ¶ 188). The Target Plaintiffs also argue that Professor Harris "was forced to guess what topics in Dr. Lerner's report might be relevant," such that his only option in his reply report was to "point[] out things Dr. Lerner 'ignored' or 'failed to consider.'" (Lerner Excl. Reply 6.) Pointing to facts an opposing expert ignored, however, is a common form of critique. (*See, e.g.*, Expert Reply Report of Dennis W.

Carlton (“Carlton Reply Rep.”) ¶¶ 32, 33, 34, 81, annexed to Carney Decl. as Ex DDX2, Docket Entry No. 8544-1 (claiming that Professor Murphy “ignores” certain relevant factors); Harris Reply Rep. ¶¶ 26, 132, 145, 164, 180 & n.28 (pointing to things that Professors Murphy, Elzinga, and McCrary allegedly “ignore”).) The Target Plaintiffs claim that they “cannot be sure they know each opinion Dr. Lerner would offer in *their* case to respond to Professor Harris.” (Lerner Excl. Reply 6.) Given Dr. Lerner’s deposition testimony, however, (*see* Lerner Dep. 340:25–341:2), it seems reasonable to assume that *all* the opinions expressed in Dr. Lerner’s report — except for any monopolization opinions that cannot be meaningfully applied to the Target Plaintiffs’ case — will be offered to rebut Professor Harris. If Dr. Lerner unfairly surprises the Target Plaintiffs at trial with opinions that were not expressed in his report, the Target Plaintiffs may object. *See Foster v. Cotton States Mut. Ins. Co.*, No. 5:12-CV-150, 2014 WL 12625103, at *1 (M.D. Fla. Jan. 7, 2014). The Court declines, however, to exclude Dr. Lerner’s opinions from the Target Plaintiffs’ case at this time.

iii. Conclusion

The Court denies Target Plaintiffs’ motion to exclude Dr. Lerner’s report and opinions.

c. Motion to exclude portions of report and opinions of Kevin M. Murphy

The Target Plaintiffs move to exclude portions of the report and opinions of Kevin M. Murphy (Target Murphy Mot.), an expert witness for Defendants. (Expert Report of Kevin M. Murphy (“Murphy Rep.”) ¶ 2 n.1, annexed to Wilson Decl. as Ex. 1, Docket Entry No. 8501-1; *see also* Expert Report of Kevin M. Murphy, annexed to Olson Decl. as Ex. 1, Docket Entry No. 8488-1.)⁷

⁷ The Court refers to Professor Murphy as “Kevin M. Murphy” as stated in his report, (Murphy Rep. ¶ 1), but notes that the exhibit is titled “Report of Professor Kevin R. Murphy,” (*see* Wilson Decl., Docket Entry No. 8345).

i. Professor Murphy's background and expert report

Professor Murphy is the George J. Stigler Professor of Economics in the Booth School of Business and the Department of Economics at the University of Chicago, as well as a senior consultant at Charles River Associates. (Murphy Rep. ¶ 1, 7.) He has published widely on economics and has been awarded the John Bates Clark Medal and MacArthur Fellowship. (*Id.* at ¶¶ 5, 6.) Professor Murphy has a Ph.D. in economics. (*Id.* ¶ 3.)

Professor Murphy's report begins with an introductory section, (*id.* ¶¶ 1–9); an overview of his analysis, (*id.* ¶¶ 10–53); and a section discussing the history and structure of payment cards, (*id.* ¶¶ 54–117). In the next section, Professor Murphy describes his “gains from trade” model. He begins with an “analytical framework” that “illustrates the economics of payment card systems and explains the procompetitive role of network rules, merchant discounts, and . . . default interchange.” (*Id.* ¶ 118.) His model includes “a single card issuer providing payment card services to a single merchant” and assumes “a fixed set of potential card-carrying customers.” (*Id.* ¶ 119, 135.) Professor Murphy states that “total surplus” is “the sum of consumer surplus and merchant profit” and is thus “a measure of joint gains from trade for the merchants and its customers.” (*Id.* ¶ 126.) He then claims that “[a]rrangements where consumers buy more in exchange for a lower price can unlock further gains from trade, benefitting both the merchant and its customers.” (*Id.* ¶ 127.) Professor Murphy states that “[m]any common business practices are designed to ‘unlock’ these mutual gains,” including “various forms of non-linear pricing (e.g., quantity discounts) that allow merchants to charge lower marginal prices in return for increased sales.” (*Id.* ¶ 133.) He argues that “modern payment card systems further enhance the gains from retail trade by transferring value from the merchant to the cardholder side of the card platform.” (*Id.* ¶ 135.) Professor Murphy defines the

value of the payment card system to the merchant as V_M , the value to the consumer as V_C , the fees charged to the merchant as F_M , the fees charged to the cardholder as F_C , the cost of the services to the merchant as C_M , and the cost to the consumer as C_C . (*Id.* ¶ 136.) The net transactional value of the payment system is $T = V_M + V_C - F_M - F_C$, and is jointly beneficial to the merchant and cardholders if $T > 0$. (*Id.* ¶ 137.) If the entire benefit is provided to the merchant, the merchant's net transactional benefit is equal to T . (*Id.* ¶ 138.) "Assuming for simplicity" that the price charged by the merchant does not change, the merchant's gain is equal to T times the quantity purchased by the consumer, while the consumer gains nothing. (*Id.* ¶¶ 138, 125 (defining Q_0)). On the other hand, if the entire benefit is provided to the consumer, cardholders will "prefer to purchase from the card-accepting merchant rather than a competing merchant that does not accept cards, and to purchase more overall as well." (*Id.* ¶ 139.) Thus, consumers will purchase additional units at the same price. (*Id.* ¶ 140.) Professor Murphy uses this analysis to argue that "when the full transactional value of the payment card is provided to cardholders, cardholders and the merchant *both* gain, and by roughly equal amounts" because "providing cardholders with the full transactional value . . . causes them to purchase . . . additional units at the same price." (*Id.* ¶ 140.) This joint gain is also "much larger . . . than the total gain when all transactional benefits are provided to the merchant," thus establishing that "for a given total fee, balancing fees toward the merchant side raises the joint gain from payment cards." (*Id.*) Professor Murphy claims that Plaintiffs' experts "completely ignore[]" this "implication of the two-sided nature of a payment card platform." (*Id.*) Further, "[e]ven greater joint gains can be achieved by raising the merchant discount and using the resulting revenues to reduce cardholder fees or to fund other cardholder benefits, such as rewards." (*Id.* ¶ 144.) Professor Murphy claims that the reduction in price "causes cardholders to purchase more,

moving them down the . . . demand curve” to points “that offer lower prices and greater consumption of the merchant’s good.” (*Id.* ¶ 145.) He contends that although the consumer gain on the units “that cardholders would have purchased without the price reduction . . . is exactly offset by reduced merchant profit on these units,” “consumers gain incremental surplus on the additional units they purchase, . . . while the merchant makes a profit on each of these units, which it would not have sold otherwise.” (*Id.*) Professor Murphy concludes that “raising the merchant discount even above the level where cardholders receive the full joint transactional value, *T*, of the payment card and transferring that value into cardholder benefits can increase the joint surplus created by the payment card.” (*Id.* ¶ 148.)

Professor Murphy applies this conclusion to the four-party card system, (*id.* ¶¶ 149–155), and claims that the extent to which accepting payment cards increases demand for a given merchant differs across merchant classes and card types, (*id.* ¶¶ 156–157). He argues that when merchants surcharge, they are reneging, free-riding, and reducing the joint benefits of payment cards. (*Id.* ¶¶ 158–164). Next, Professor Murphy explains “additional features of successful payment card networks that affect the balance of fees between merchant and cardholder,” (*Id.* ¶¶ 165–187); argues that competition between payment cards, acquiring banks, and issuing banks “creates strong incentives to innovate in ways that benefit both cardholders and merchants,” (*id.* ¶¶ 188–191); explains that the benefits of payment cards, like those of other “business practices that provide discounts to consumers designed to increase merchant sales,” are not recognized equally by all consumers, (*id.* ¶¶ 191–199); and states that the underlying principles of his analysis are also “applicable to debit cards and debit card networks,” (*id.* ¶ 200).

In the next section, Professor Murphy lists the “empirical predictions” yielded by his analysis and lists “empirical evidence supporting each of these predictions.” (*Id.* ¶¶ 201–202.)

The first prediction is that acceptance of payment cards will increase merchants' sales and profitability. (*Id.* ¶¶ 203.) Professor Murphy first points to data from individual retailers that he claims supports his theory. (*Id.* ¶¶ 204–218.) Next, he “examine[s] the question whether the ownership of credit cards . . . increases aggregate consumer demand,” using “data from the Visa Payment Panel Study (‘VPPS’).” (*Id.* ¶ 219.) Professor Murphy uses the data to determine whether “consumers spend more as the cardholder benefits they receive increase.” (*Id.* ¶ 222.) He begins by creating “‘credit-card holding’ indicators for each individual based on the rewards levels of the cards they hold” and “classify[ing] credit cards using a hierarchical system based on the generosity of the cardholder rewards associated with the card.” (*Id.* ¶ 223.) He then classifies individuals “according to the card he or she holds that is highest in the hierarchy in a particular quarter, and depending on whether the individual has or does not have an American Express card.” (*Id.* ¶ 224.) Professor Murphy then estimates a regression to “measure the relationship between the type of card an individual holds and the individual’s spending level.” (*Id.* ¶¶ 225–228.) He concludes that the results of the regression “indicate that credit cards are associated with an increase in overall spending, and that the increase in overall spending is greater when individuals obtain cards offering greater rewards.” (*Id.* ¶¶ 229–231.) Spending by individuals who previously had at least one debit or credit card and by individuals who previously had at least one credit card increased more dramatically. (*Id.* ¶¶ 232–233.) Professor Murphy describes the results as showing “spending increases from two different sources”: greater total spending, which he describes as “the market-expanding effect,” and spending shifting from cash, checks, or other methods to credit cards, which he describes as “the substitution effect.” (*Id.* ¶¶ 234–237.)

Professor Murphy also claims that empirical evidence supports the economic prediction that “payment card usage would reduce the net retail prices paid by card users” and may also “lower retail prices to all customers (including cash and debit customers) by making merchant-specific demand more elastic, which causes merchants to price more aggressively.” (*Id.* ¶¶ 257–263.) Professor Murphy “analyze[s] the impact of changes in credit cards and credit availability on supermarket prices in seven metropolitan areas using data on household access to credit cards from TransUnion for June 2009,” combined with “two types of data from Information Resources Inc. (‘IRI’).” (*Id.* ¶ 264.) He again estimates a regression model, which he interprets as showing that “increased credit card and credit availability among a store’s shoppers are not associated with higher prices,” and in fact in some cases “an increase in credit availability within a trade area is associated with a statistically significant decrease in the average prices of several product categories,” (*id.* ¶¶ 265–272).

In the next section, Professor Murphy describes “the strong procompetitive justifications” for the challenged network rules “and other rules.” (*Id.* ¶ 273–274.) He states that for “a network good like a payment card platform,” externalities occur “when an action by an individual participant . . . changes the value of the network good for other participants.”⁸ (*Id.* ¶ 276.) Professor Murphy claims that such externalities “are special cases of the well-known economic phenomenon called the ‘tragedy of the commons,’ in which individual participants find it beneficial to free-ride on a . . . ‘public good,’” and that the public good in this case is “the value of the payment card network to all participants.” (*Id.* ¶ 277.) The HAC rules, no-

⁸ A “network good” is a good “whose value to users rises as more of them connect to the same network.” William F. Shughart II & Diana W. Thomas, *Intellectual Property Rights, Public Choice, Networks, and the New Age of Informal IP Regimes*, 23 Sup. Ct. Econ. Rev. 169, 182 (2015).

surcharging rules, and non-discrimination rules therefore “constrain the ability of individual participants to engage in inefficient free-riding behaviors that would harm the network.” (*Id.* ¶ 277.) Professor Murphy claims that the challenged rules “are procompetitive because they restrain such free-riding behavior, and so maintain the value of the network.” (*Id.* ¶ 278.) Further, these types of rules are “common efficiency-enhancing business practices used throughout the economy,” such as the rules that franchisors impose on franchisees. (*Id.* ¶¶ 279–280.) Professor Murphy describes this “public good” argument in relation to the HAC rule. (*Id.* at ¶¶ 281–299.) He claims that universal acceptance of cards is a public good that is eroded when an individual merchant declines to accept a card with a high merchant fee. (*Id.* ¶ 288.) He then applies the “public good” argument to the no-surcharge rule, (*id.* ¶¶ 300–305), the non-discrimination rule, (*id.* ¶¶ 307–310), the no-bypass rule, (*id.* ¶ 311–312), the no competing marks rule, (*id.* ¶¶ 313), the all-outlets rule, (*id.* ¶¶ 314–315), and the no minimum or maximum purchase rule, (*id.* ¶¶ 316–317).

In the next section, Professor Murphy argues that the challenged rules do not have the anticompetitive effects claimed by Plaintiffs’ experts. (*Id.* ¶¶ 318–433.) As part of this discussion, he argues that Plaintiffs’ experts ignore the way the challenged rules preserve network value. (*Id.* ¶¶ 326–341.) Further, he claims that Plaintiffs’ experts’ own descriptions of the but-for world include “fragmentation of the networks,” but do not fully consider the impact of that fragmentation on networks, issuers, or consumers. (*Id.* ¶¶ 329–341.) Finally, Professor Murphy argues that Plaintiffs’ experts’ analyses of the but-for world are flawed. (*Id.* ¶¶ 434–495.)

ii. Assumptions underlying “gains from trade” model

The Target Plaintiffs argue that Professor Murphy’s “gains from trade” model “is based on irrational assumptions that are inconsistent with the real world and basic economic principles, and . . . do not ‘fit’ with the issues in this case.” (Mem. of Law in Supp. of Target Pls.’ Mot. to Exclude Portions of Rep. & Opinions of Def. Expert Kevin M. Murphy (“Target Murphy Excl. Mem.”) 2, Docket Entry No. 8130.) They cite to their expert Dr. R. Preston McAfee,⁹ who “found that three crucial assumptions taken together drive the results produced by” Professor Murphy’s model: “[f]irst, the [m]odel assumes that the lone merchant has significant market power and can charge consumers a price above the incremental cost of another unit”; “[s]econd, the [m]odel assumes that the price the merchant charges to consumers is fixed and, therefore, the merchant will not raise or lower the price” as the interchange fee changes; and third, the model assumes that the network/issuing bank “behaves like a perfectly competitive firm and does not exercise market power,” instead fully passing on changes in interchange to cardholders. (*Id.* at 3–4.) The Target Plaintiffs argue that these assumptions are both necessary for the model’s results and “inconsistent with the facts, prevailing economic theories, and basic economic principles.” (*Id.* at 4–9.) Further, they argue that the model cannot evaluate the impact of the HAC rules “because it assumes there is only *one* issuer . . . and only *one* card”; cannot evaluate the no-surcharge rules because it “assumes that all customers use the one credit card, meaning there is no cheaper form of tender . . . that could be the subject of merchant steering efforts”; and cannot analyze whether the competitive restraints are beneficial because it “simply assume[s] that the single network/issuer/acquirer is perfectly competitive and earns no economic profit.”

⁹ The Target Plaintiffs retained Dr. McAfee to evaluate certain opinions of Dr. Murphy and Professor David P. Kaplan. (Excerpts from Rep. of Dr. R. Preston McAfee (“McAfee Rep.”) ¶ 44, annexed to Wilson Decl. as Ex. 3, Docket Entry No. 8501-1.)

(*Id.* at 9–10.) The Target Plaintiffs argue that because “[n]one of these assumptions ‘fits’ with the case,” the “gains from trade” model should be excluded. (*Id.* at 10.) Finally, the Target Plaintiffs rebut Defendants’ claim that Professor Murphy did not make the assumptions the Target Plaintiffs attribute to him, arguing that even if Professor Murphy used different assumptions later in his report, “he did not revisit the [m]odel and apply those altered assumptions to test whether they change the conclusions derived from his [m]odel.” (Reply Mem. of Law in Further Supp. of Target Pls.’ Mot. to Exclude in Part Rep. & Opinions of Def. Expert Kevin M. Murphy (“Target Murphy Excl. Reply”) 3, Docket Entry No. 8347.)

In response, Defendants argue that the Target Plaintiffs “predicate their challenge to Professor Murphy’s report and opinions on assumptions that Professor Murphy does not make.” (Defs.’ Mem. of Law in Opp’n to Mots. to Exclude Portions of Rep. & Opinions of Def. Expert Prof. Kevin M. Murphy (“Murphy Excl. Opp’n”) 12, Docket Entry No. 8376.) They claim that Professor Murphy does not assume that merchants do not raise prices, does not assume that merchants have significant market power, does not assume that merchants face no competition, and does not assume that the network/issuer is perfectly competitive. (*Id.* at 12–18.) Defendants also argue that the gains from trade model fits the facts of the case because “it explains why merchants accept payment cards, why cardholder rewards and merchant discount fees are balanced in the way they are, why higher-rewards cards with greater merchant discount fees have emerged, and why a higher merchant discount fee increases joint gains from trade for merchants and cardholders.” (*Id.* at 18–19.)

The Court does not exclude Professor Murphy’s “gains from trade” model. First, whether Professor Murphy makes an improper assumption about market power is a matter to be determined at trial. Professor Murphy’s analysis assumes “a single card issuer providing

payment card services to a single merchant,” in which the merchant “set[s] price[s] above the incremental cost of selling another unit.” (Murphy Rep. ¶¶ 119, 122.) The Target Plaintiffs’ expert Dr. McAfee interprets this assumption as an assumption “that the merchant has significant market power in the sense that the merchant charges consumers a price that is above the incremental cost of selling another unit.” (McAfee Rep. ¶ 44.) He writes in his report that “[t]he assumption that the merchant has market power over the retail price is crucial because it implies that consumer welfare and total welfare necessarily increase if the effective price paid by consumers is reduced,” and that because the merchant has market power, he has a “cushion” that “allows the merchant to remain viable when the interchange fee increases and Prof. Murphy forces the merchant not to raise prices.” (*Id.* ¶ 45–46.) Defendants argue that Professor Murphy’s assumption that merchants set prices above marginal cost is not equivalent to an assumption that merchants have substantial market power. (Murphy Excl. Opp’n 15.) They cite to, among other sources, Dr. McAfee’s deposition, at which he testified that “merchants do as a general matter price above marginal cost” and argue that Professor Murphy’s assumption that merchants price above marginal cost is flawed only “in combination with the other assumptions.” (*Id.*; Videotaped Dep. of Preston McAfee (“McAfee Dep.”) 69:12–23, annexed to Carney Decl. as DDX146, Docket Entry No. 8547-7.) Whether Professor Murphy’s assumption that the merchant prices above marginal cost constitutes an assumption that the merchant has market power is a “battle of the experts” that the Court declines to resolve at this stage. *In re LIBOR-Based Fin. Instruments Antitrust Litig.*, 299 F. Supp. 3d 430, 471 (S.D.N.Y. 2018). Rather, the Target Plaintiffs may make this argument on cross-examination and through Dr. McAfee’s testimony.

Second, the Court addresses Professor Murphy's alleged "fixed price" assumption in its order on The Home Depot and the 7-Eleven Plaintiffs' motion to exclude Professor Murphy's report and opinions and does not repeat that discussion here. The Court finds that Plaintiffs may challenge Professor Murphy's assumption that prices remain constant at trial and does not exclude the "gains from trade" model.

Third, whether Professor Murphy improperly assumes that the network/issuer is perfectly competitive and fully passes on changes in interchange is also a matter to be determined at trial.

Professor Murphy states in his report that:

[his] conclusions do not require full marginal pass-through — the same basic conclusions would hold if a portion of increased interchange were retained by issuers, which implies a pass-through rate below 1.0. As an empirical matter, the evidence presented below indicates that increases in average interchange during the period of this case have been fully passed through to cardholders in the form of higher rewards, lower fees and other benefits, so the analysis above is not at odds with the facts.

(Murphy Rep. ¶ 150.) Later in the report he provides empirical evidence that he claims shows that changes in interchange are passed through to cardholders. (*Id.* ¶¶ 238–243.) Dr. McAfee's report, however, states that Professor Murphy's claim that the "same basic conclusions would hold if a portion of increased interchange were retained by issuers" is "inconsistent with the economic literature" because "[t]he models in the economic literature typically assume that the issuing market is imperfectly competitive." (McAfee Rep. ¶ 44 n.14.) Dr. McAfee argues that Professor Murphy's assumption of perfect competition "is necessary" for Professor Murphy "to show that the conduct at issue in this case is consistent with competitive behavior," but that it also "*assumes* the defendants are not anticompetitive," and therefore "cannot be used to assess whether the challenged conduct is anticompetitive or not." (*Id.* ¶¶ 44, 138.) He also claims that "by neglecting the loan market and other ways that banks profit from specific customers,"

Professor Murphy “has left out an important factor to the profitability of rewards customers, and thus cannot attribute specific rewards to levels of interchange.” (*Id.* ¶ 81.)

In response, Defendants cite to Dr. McAfee’s deposition, (Murphy Excl. Opp’n 17–18), during which Dr. McAfee testified that “given all of Professor Murphy’s other assumptions,” Professor Murphy’s conclusions still hold at a pass-through rate under 100 percent. (McAfee Dep. 117:8–13.) Dr. McAfee also testified that the assumption that networks/issuers are perfectly competitive does not impact his conclusions that the model “greatly overstates the gains to cardholders from increasing the merchant discounts,” “greatly understates the negative effect of higher merchant discounts on the merchants’ profits,” and “ignores the negative effect of higher interchange fees on customers that don’t use the card.” (McAfee Dep. 117:25–119:2.) As stated above, the Court concludes that whether empirical evidence supports a conclusion of full marginal pass-through and whether full pass-through and perfect competition are necessary to support Professor Murphy’s conclusions are matters to be determined at trial, and Professor Murphy does not rely on assumptions “that are ‘so unrealistic and contradictory as to suggest bad faith’ or to be in essence ‘an apples and oranges comparison.’” *Zerega Ave. Realty Corp. v. Hornbeck Offshore Transp., LLC*, 571 F.3d 206, 214 (2d Cir. 2009); (*see* Target Murphy Excl. Mem. 9 n.8).¹⁰

¹⁰ The Target Plaintiffs also claim that Professor Murphy’s model contradicts both the real world and recognized economic theory by failing to incorporate competitors that reduce their prices. (Target Murphy Excl. Mem. 6.) They claim that this “conflicts squarely with widely recognized economic theory,” citing to Dr. McAfee’s testimony that Professor Murphy’s model “deviates” from the Bertrand-Nash model by holding competitors’ prices constant. (*Id.*; McAfee Dep. 56:12-57:25.) In response, Defendants cite to Professor Murphy’s model’s recognition that “[i]f the merchant raises price relative to what others charge, it will sacrifice sales because consumers will take their business elsewhere.” (Murphy Rep. ¶ 124.) They also argue that “application of the Bertrand-Nash equilibrium model is consistent with examining ‘a single merchant’s incentives’ and assuming that a single merchant will set its prices

iii. “Fit” of “gains from trade” model

The Court also does not exclude the “gains from trade” model for lack of “fit.”

“[W]hether the expert’s testimony ‘fits’ the facts of the case . . . is a relevance standard.”

Graham v. Playtex Prods., Inc., 993 F. Supp. 127, 130 (N.D.N.Y. 1998). Professor Murphy claims that his single-issuer model shows “that the merchant’s decision to accept the card will be less fee-sensitive than a consumer’s decision to carry and use it” and “why point-of-sale surcharging is a form of reneging by the merchant, and reduces efficiency.” (Murphy Rep. ¶ 119.) He also claims that the following discussion, which “brings in the ‘network effects’ of two-sided payment card systems,” shows “that efficiency is enhanced by balancing fees more heavily on the merchant side of the platform” and “that merchant discounts, interchange in four-party networks, and network rules such as HAC/HAI, non-discrimination or no-discount, and NSR are natural features of competitive general-purpose card systems.” (Murphy Rep. ¶¶ 118–20.) The relevance of these conclusions to the case is obvious.

The Target Plaintiffs argue that Professor Murphy’s model cannot be used to evaluate the HAC rules because “it assumes there is only *one* issuer . . . and only *one* card”; cannot be used to evaluate the no-surcharge rules because it “assumes that all customers use the one credit card, meaning there is no cheaper form of tender”; and cannot analyze whether the competitive restraints are beneficial because it assumes “that the single network/issuer/acquirer is perfectly

independently, holding constant the prices charged by its rivals,” (Murphy Excl. Opp’n 16), citing to Dr. McAfee’s deposition and an academic source. Professor Murphy also testified that the Bertrand-Nash model involves holding competitors’ prices constant. (Dep. of Kevin M. Murphy “Murphy Dep.” 594:1–22, annexed to Carney Decl. as Ex. DDX119, Docket Entry No. 8547-3.) The Court does not exclude Professor Murphy’s model, but the Target Plaintiffs may cross-examine Professor Murphy and present Dr. McAfee’s contradictory testimony on the issues of whether Professor Murphy assumes competitors may not change their prices and whether this assumption is consistent with the applicable economic theory.

competitive and earns no economic profit.” (Target Murphy Excl. Mem. 9–10.) They claim that because “[n]one of these assumptions ‘fits’ with this case,” the “gains from trade” model must be excluded.” (*Id.* at 10.) The Court concludes that Professor Murphy’s models are sufficiently consistent with the real world to be admissible. The Target Plaintiffs may argue at trial that neither Professor Murphy’s model nor his later analysis of “network effects” is sufficient to show that the HAC rules are a natural feature of a competitive system, (*see* Murphy Rep. ¶ 120); that his analysis of surcharging fails to meaningfully evaluate the no-surcharge rules, (*see id.* ¶¶ 158–64); and — as described above — that his conclusions are dependent on a false assumption that networks/issuers are perfectly competitive.

The cases cited by the Target Plaintiffs are distinguishable. (*See* Target Murphy Excl. Mem. 10 (citing to *LVL XIII Brands, Inc. v. Louis Vuitton Malletier S.A.*, 209 F. Supp. 3d 612 (S.D.N.Y. 2016); *Berk v. St. Vincent’s Hosp. & Med. Ctr.*, 380 F. Supp. 2d 334 (S.D.N.Y. 2005)).) In *LVL XIII Brands, Inc.*, the court found that the expert’s opinions “rest[ed] on a faulty assumption: that [the plaintiff’s] customer base consisted primarily of ‘urban male[] . . . luxury footwear buyers between the ages of 17 and 36.’” *LVL XIII Brands, Inc.*, 209 F. Supp. 3d at 641. The expert opined that such consumers are “extremely sensitive” to sneaker culture and therefore likely to perceive the feature at issue as “an inherently distinctive indicator of source.” *Id.* at 641–42. The court concluded that the testimony “fail[ed] *Daubert*’s ‘fit’ requirement” and was “a mismatch for the facts of this case” because the expert’s “definition of the relevant consumer market lack[ed] record foundation.” *Id.* at 642. Rather, the record evidence about the customer base was “to the contrary.” *Id.* Because the expert’s opinions were based “on that unsupported assumption,” they were not relevant to the case. *Id.* at 643. As the court noted, “even if [the expert] had a reliable basis for concluding that urban males perceived the [feature] as a source

identifier, that opinion would not assist the trier of fact in determining the pertinent issue *in this case*: whether the [feature] achieved secondary meaning *among the relevant consumer population*.” *Id.*

The Target Plaintiffs argue that Professor Murphy’s model is based on similar unsupported assumptions, but the Court disagrees. (Target Murphy Excl. Mem. 9–10.) The model is inherently a simplification that does not perfectly resemble the real world. Whether its results hold true for the real world is a matter for cross-examination and a “battle of the experts” between Professor Murphy and Dr. McAfee, but the Court does not find at this stage that any of its assumptions renders its results irrelevant to this case. In particular, the Target Plaintiffs argue that the model cannot evaluate the impact of the HAC rules or the no-surcharging rule because it assumes there is only one issuer and one card, but Professor Murphy’s analysis of surcharging specifically considers the effects of merchant steering and surcharging. (*See* Murphy Rep. ¶¶ 158–164.) He also claims that his analysis of network effects “demonstrate[s] that efficiency is enhanced by balancing fees more heavily on the merchant side of the platform,” which in turn “shows that . . . network rules such as HAC/HAI . . . are natural features of competitive general-purpose card systems.” (*Id.* ¶ 120.) The Court does not assume that Professor Murphy’s surcharging analysis is correct or complete, but Professor Murphy did not simply fail to assume that a merchant could ever decline a card or surcharge card users. Finally, the Target Plaintiffs argue that the model cannot evaluate whether the competitive restraints are beneficial because it assumes “that the single network/issuer/acquirer is perfectly competitive and earns no economic profit.” (Target Murphy Excl. Mem. 10.) As described above, however, whether total pass-through is a realistic assumption and whether that assumption is necessary for Professor Murphy’s conclusions is a contested issue that the Court does not resolve at this stage.

Berk is also distinguishable. (See Target Murphy Excl. Mem. 10.) In *Berk*, the expert opined that the plaintiff “should have been instructed to seek immediate medical attention” because his complaints “were significant and presented a strong probability of infection.” 380 F. Supp. 2d at 352. The expert “admitted at his deposition that he had never seen or reviewed [the plaintiff’s] deposition testimony, or the testimony of other parties and witnesses in this case, before developing his expert opinion.” *Id.* at 353. Rather, his opinion was “premised on the hybrid view of the facts put forward by [the plaintiff] for purposes of summary judgment, as well as an additional symptom . . . that [wa]s based on neither party’s evidence.” *Id.* The court concluded that there was “simply too great an analytical gap between the data and the opinion proffered” for the expert’s report to be admissible. *Id.* (quoting *Joiner*, 522 U.S. at 146). The Court does not find the simplifications in Professor Murphy’s economic model to be the equivalent of a medical opinion that was not based on the facts of the injury. Whether Professor Murphy’s model draws accurate conclusions about the HAC rules, the no-surcharge rule, and the benefits of the competitive restraints is a matter for cross-examination and a “battle of the experts.” See *In re Air Cargo Shipping Servs. Antitrust Litig.*, No. 06-MD-1175, 2014 WL 7882100 at *8 (E.D.N.Y. Oct. 15, 2014) (stating that “[d]eference to experts is particularly appropriate when expert testimony concerns ‘soft sciences’ like economics” and that creating statistical models “is not like a Pythagorean demonstration of a mathematical truth that can be revealed indisputably”) (first quoting *In re Vitamin C Antitrust Litig.* No. 06-MD-1738, 2012 WL 6675117, at *5 (E.D.N.Y. Dec. 21, 2012); and then quoting *Falise v. Am. Tobacco Co.*, 258 F. Supp. 2d 63, 67 (E.D.N.Y. 2000)).

Accordingly, the Court does not exclude Professor Murphy’s “gains from trade” model.

iv. Professor Murphy's regression analyses

The Target Plaintiffs challenge Professor Murphy's two regression analyses: his regression analysis using VPPS data, which he claims shows that credit cards are associated with increases in aggregate demand and sales, (Murphy Rep. ¶¶ 219–237), and his regression analysis using IRI data, which he claims shows that card usage does not increase retail prices, (*id.* ¶¶ 264–272). (Target Murphy Excl. Mem. 10.)

1. VPPS regression analysis

A. Tiering

The Target Plaintiffs argue that Professor Murphy's "assignment of VPPS panelists to reward tiers was flawed" because he "assigned panelists to tiers he created based on the credit cards they *hold* with the highest rewards, *not* the cards they actually *use* to make purchases." (Target Murphy Excl. Mem. 13.) The Target Plaintiffs argue that a rewards card only decreases a consumer's marginal price if she actually uses the rewards card, and that a consumer's new high-rewards card "measures the marginal price *only* if the consumer's preferred card and *other* credit cards have reached their credit limit or the cardholder changes card preferences." (Target Murphy Excl. Reply 6.) The Target Plaintiffs claim that because the VPPS data "included data on the credit card with the most spending for each panelist," Professor Murphy "could have classified cardholders in his tiers based on their *actual use* of cards," and that when Dr. McAfee "reassign[ed] panelists to the tier corresponding to the card with the most *spending*, he found 'no relationship between credit card rewards and spending.'" (Target Murphy Excl. Mem. 13–14.) They claim that Professor Murphy admits that his VPPS regressions can support causality only in combination with his model and that therefore "the VPPS analysis is unreliable and inadmissible." (*Id.* at 14.)

In response, Defendants claim that Professor Murphy’s classification of panelists “is consistent with Professor Murphy’s theoretical model and the purpose of his VPPS regression analysis.” (Murphy Excl. Opp’n 28.) They argue that if a cardholder obtains a card with higher rewards, “the effective price on any *marginal* (additional) purchases will be less than the price on purchases made with his or her existing cards, regardless of whether the new card is used more often than other cards.” (*Id.* at 29.) Therefore, “classifying panelists by their highest tier rewards card, regardless of whether they use that card most often, appropriately tests the model’s prediction regarding marginal purchases.” (*Id.*) Defendants argue that classifying panelists by the card used most often “would miss this marginal incentive.” (*Id.*) In his report, Professor Murphy explains that he classifies individuals according to their highest-reward card in that quarter because he “expect[s] that the highest-reward card held is the primary determinant of an individual’s marginal spending decision, and it is not feasible to estimate empirically the separate impacts of the large number of possible card combinations individuals hold.” (Murphy Rep. ¶ 224 n.305.)

The Target Plaintiffs have identified a difference in opinion between Dr. McAfee and Professor Murphy regarding how cardholders should be tiered in order to show a relationship between credit card reward and consumer demand, in which each expert has offered analysis to support their position. Such a difference in opinion is a “battle of the experts” in which it is inappropriate for the Court to “cho[o]s[e] sides.” *In re Joint & S. Dist. Asbestos Litig. v. U.S. Mineral Prods. Co.*, 52 F.3d 1124, 1135 (2d Cir. 1995). The Court therefore does not exclude Professor Murphy’s regression analysis on this basis.

The Target Plaintiffs also claim that Professor Murphy omits from his analysis “VPPS participants who have credit cards in their wallet but no debit cards.” (Target Murphy Excl.

Mem. 17.) They claim that when Dr. McAfee “correct[s]” this decision, the analysis “finds that panelists do not increase their spending when they switch from holding only a debit card to holding only a credit card; instead, there is statistically significant *less* spending when that happens.” (*Id.*) Defendants respond that Professor Murphy does include “credit card only” participants in his analysis because he defines card tier variables “for all credit card holders, including so-called ‘credit card only’ participants.” (Murphy Excl. Opp’n 33.) They also argue that the regression should not include panelists who switch from having a debit card to only a credit card because such a panelist “ceases to use his debit card, and any reduction in spending . . . results from a smaller pool of funds from which to spend.” (*Id.* at 33 n.108.)

The Court is not persuaded that failure to include panelists who switch from a debit card to a credit card is a sufficient basis to exclude Professor Murphy’s regression. Dr. McAfee argues that excluding these panelists is improper because there is no reason to consider panelists who keep their debit card after acquiring a credit card but not panelists who stop holding a debit card after acquiring a credit card. (*See* McAfee Rep. ¶ 161.) However, as Defendants argue, a panelist who stops holding a debit card is eliminating a possible source of funds. (*See* Murphy Excl. Opp’n 33 n.108.) This is another difference of opinion between Dr. McAfee and Professor Murphy that is properly resolved at trial, not on a *Daubert* motion. Further, even assuming that Dr. McAfee is correct, it is not clear that the cumulative effect of panelists who make this specific switch is “large enough that [Professor Murphy] lacks ‘good grounds’ for his . . . conclusions.” *Amorgianos*, 303 F.3d at 267 (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 746 (3d Cir. 1994)).

B. Omitted variables bias

The Target Plaintiffs argue that Professor Murphy fails to “control for variables that account for other factors that affect both spending and card ownership — such as changes in family size, home ownership status, or changes in employment.” (Target Murphy Excl. Mem. 14.) They claim that both academic research and case law illustrate that “failure to control for such factors is an example of ‘omitted variable bias’ and means that the VPPS analysis is ‘biased, unreliable, and [does] not meet professional standards.’” (*Id.* at 15 (alteration in original).) The Target Plaintiffs point to Dr. McAfee’s use of VPPS data to control for credit limit and revolver status, arguing that his results show that when these variables are controlled for, “there is no association between spending and credit card holdings.” (*Id.* at 15–16.)

In response, Defendants argue that a “regression analysis is . . . generally admissible, notwithstanding a claim of omitted variable bias, unless the omitted variable is so critical that its omission renders the regression ‘so incomplete as to be inadmissible as irrelevant.’” (Murphy Excl. Opp’n 29–30.) They claim that Professor Murphy “controls for a host of independent variables, such as panelists’ current age and income, that affect consumer spending.” (*Id.* at 30.) Although the Target Plaintiffs identify other variables Professor Murphy “might have controlled for,” Defendants argue that courts “generally decline to exclude regression analyses based on this type of sweeping reference to allegedly omitted variables without a more specific basis for why the omission of those variables renders the regression irrelevant.” (*Id.*) They also argue that both of the omitted variables mentioned specifically in the Target Plaintiffs’ brief — credit limits and revolver status — are “endogenous” variables, “meaning that their values are determined at least in part by the dependent variable itself (spending).” (*Id.* at 31.) Defendants argue that whether to control for these endogenous variables is a matter “on which economists can

reasonably disagree.” (*Id.* at 31–32.) They further claim that Professor Murphy did “include[] controls for revolver status and credit limit in his regression analysis as robustness checks.” (*Id.* at 31.)

“Ordinarily, the failure to include a variable in a regression analysis will affect the probative value of the analysis and not its admissibility.” *Freeland v. AT&T Corp.*, 238 F.R.D. 130, 145 (S.D.N.Y. 2006) (citing *Bazemore v. Friday*, 478 U.S. 385, 400 (1986)). “Where significant variables that are quantifiable are omitted from a regression analysis, however, the study may become so incomplete that it is inadmissible as irrelevant.” *Id.* (citing *Bickerstaff v. Vassar College*, 196 F.3d 435, 449 (2d Cir. 1999)); *see also Bickerstaff*, 196 F.3d at 449. “Thus, a regression that excludes ‘major’ variables is inadmissible while a regression that excludes other potentially important ones may not be.” *Reed Const. Data Inc. v. McGraw-Hill Co., Inc.*, 49 F. Supp. 3d 385, 401 (S.D.N.Y. 2014). “Because the burden of proving helpfulness and relevance rests on the proponent of a regression analysis, it is the proponent who must establish that the major factors have been accounted for.” *Freeland*, 238 F.R.D. at 145.

Professor Murphy’s report states that his regression includes “fixed effects . . . as controls.” (Murphy Rep. ¶ 227.) He explains that his use of “individual fixed effects” “means that the estimated relationships between card type and expenditures . . . reflect only variation within individuals over time,” which “parsimoniously control[s] for a host of possible outside influences on card holding across people that may also be correlated with spending levels.” (*Id.*) *See Susan Yeh, Laws and Social Norms: Unintended Consequences of Obesity Laws*, 81 U. Cin. L. Rev. 173, 199 n.97 (2012) (explaining that “individual fixed effects” are “all time-invariant unobserved characteristics that are specific to an individual”); Joint Committee on Taxation, *Estimating the Effects of the Required Minimum Distribution Rules on Withdrawals from*

Individual Retirement Accounts, JCX-5-19 (I.R.S.), 2019 WL 1048943, at *5 n.12 (Feb. 22, 2019) (explaining that “individual fixed effects” “control for time-invariant individual heterogeneity”). Professor Murphy also used “time fixed effects,” which “controls for any changes in overall spending levels that have common effects on individuals, including seasonal movements, time trends or arbitrary shape, and business cycle effects.” (Murphy Rep. ¶ 227.) See Xiaoge Liu et al., *Litigation and Corporate Risk Taking: Evidence from Chinese Listed Firms*, 61 Int’l Rev. L. & Econ. 1, 4 (2020) (explaining that “time fixed effects” “control[] time-variable unobservable factors”); David R. Friedman, *The Inscrutability of Randomness*, 51 No. 1 Crim. Law Bulletin ART 3 (2015) (explaining that “time fixed effects” “control[] for national time trends” (quoting John J. Donohue & Justin Wolfers, *Uses and Abuses of Empirical Evidence in the Death Penalty Debate*, 58 Stan. L. Rev. 791, 804 (2005))). Professor Murphy also controlled for household income and age. (Murphy Rep. ¶ 221.)

The Court does not exclude Professor Murphy’s regression on the basis of omitted variables. While the variables identified by the Target Plaintiffs — changes in family size, changes in employment, and home ownership, as well as credit limit and revolver status, (Target Murphy Excl. Mem. 14–16) — are “potentially important,” they are not so “major” as to warrant exclusion of the regression. *Reed Const. Data Inc.*, 49 F. Supp. 3d at 401. Changes in family size or employment, home ownership, credit limit, and revolver status are not obviously the major drivers of spending, particularly compared to the variables Professor Murphy does control for, including income and time-invariant individual characteristics *Cf. Bickerstaff*, 196 F.3d at 448–50 (excluding regression analysis that found “evidence of consistent differences in salaries based on sex and race” because it “failed to account for the major factors that [the defendant] considers in evaluating salary increases”); *Lamarr-Arruz v. CVS Pharm., Inc.*, No. 15-CV-4261,

2017 WL 4277188, at *9–10 (S.D.N.Y. Sept. 26, 2017) (excluding study purporting to show racial bias in reports to the police because the expert “did not attempt to control for variables other than race that could explain alternative reasons for the police contacts”); *In re Wireless Tel. Servs. Antitrust Litig.*, 385 F. Supp. 2d 403, 427–28 (S.D.N.Y. 2005) (excluding regression analysis purporting to show that defendants’ actions inflated the average wholesale price of handsets because it failed to control for any other possible causes, including the shift to digital technology and improvements in handset quality). Instead, the Target Plaintiffs may use these variables to challenge Professor Murphy’s regression on cross-examination. In particular, given that Dr. McAfee modeled the effect of controlling for credit limit and revolver status, (McAfee Rep. ¶¶ 170–171), and Professor Murphy used these variables as “robustness checks,” (Murphy Rep. ¶ 221, Exhibit D-1A), Dr. McAfee and Professor Murphy may present their arguments on the significance of these variables at trial.

C. Implying causation

The Target Plaintiffs point to Professor Murphy’s conclusion from his VPPS regression that “acquiring cards with greater rewards is ‘associated with’ increased spending.” (Target Murphy Excl. Mem. 16.) They argue that “[b]ecause Professor Murphy’s observations do not prove rewards *cause* higher spending, his opinion is unreliable as evidence of causation and is irrelevant.” (*Id.* at 17.) The Target Plaintiffs note that Defendants do not cite a definition of “association” and therefore “are faced with the definition of the term as used in statistical analysis,” under which, “[w]hen two variables are ‘associated,’ causality might go in one direction . . . , the other direction . . . , both directions . . . , or neither direction.” (Target Murphy Excl. Reply 7, n.3 & n.4.) They also claim that Professor Murphy improperly defines “associated with” as “a complementary relationship where an increase in cards will increase

spending, and an increase in spending will increase the desire of getting reward cards,” and argue that this “redefinition of an accepted term” demonstrates “the risk of misleading the jury about whether Professor Murphy’s VPPS regressions in fact show causation.” (*Id.* at 7 n.4.)

Defendants agree that Professor Murphy found only an association between spending and higher rewards, but argue that he “then relied on economic theory and other evidence, together with his VPPS regression analysis, to conclude that rewards and consumer spending are ‘causally linked.’” (Murphy Excl. Opp’n 28.)

Professor Murphy concludes from his VPPS regression that “acquisition of a card with successively higher rewards is associated with larger increases in spending.” (Murphy Rep. ¶ 229.) He states that the results show that “cards do not simply shift consumer spending from merchants that do not accept cards to those that do,” but rather that “overall spending rises in product categories where cards can be used.” (*Id.* ¶ 231.) Professor Murphy finds that “[t]his indicates that credit cards are market-expanding.” (*Id.*) He concludes that “evidence from the VPPS is consistent with the model of payment card economics [he] described above”: “The cardholder benefits provided by general purpose credit cards, including Visa and Mastercard, are associated with expanded aggregate spending and thus benefit merchants by increasing their sales.” (*Id.* ¶ 237.)

At Professor Murphy’s deposition, he was directed to the statement in his report that “both increased ownership of cards and the associated increase in cardholder benefits are associated with increased aggregate purchases by households.” (Murphy Dep. 679:19–23.) He was asked whether, when he used the term “associated with,” he meant “that increases in cardholder benefits are correlated with increased aggregate purchases by households.” (*Id.* at 680:4–12.) Professor Murphy replied that he “would go a little bit beyond correlated with” and

that “spending and those types of cards are complementary. That is . . . an increase in cards will increase spending, and an increase in spending will increase the desire of getting higher rewards cards.” (*Id.* at 680:17–24.) He said that he “see[s] this association in the data” and that it is “evidence that these things are causally linked to one another — although maybe in both directions.” (*Id.* at 680:25–681:6.) Professor Murphy said that “complementarity in economics . . . runs both ways” and that “[he] would interpret” the regression as indicating “that there is that kind of relationship between spending and cards.” (*Id.* at 682:1–18.) It was “harder to say” how much of the relationship consisted of cards driving spending, but Professor Murphy thought the regression showed “an effect in that direction, and it’s non-trivial. [He] just — [was] not sure [he] would say all of what we’re [seeing] there is in that direction.” (*Id.* at 682:18–24.) Professor Murphy was asked how he knew the causality goes in both directions and replied that “economics says if things tend to be complements,” causality will go in both directions. (*Id.* at 683:2–9.) Professor Murphy was then asked whether he was claiming that his regression “standing alone shows that causality goes in both directions to a reasonable degree of economic certainty.” (*Id.* at 683:10–13.) He replied that he thought “it’s a reasonable interpretation. And based on the underlying theory, not just on the results alone, . . . that tells me this is the direction things will go, and that there is going to be a relationship from cardholding to spending.” (*Id.* at 683:16–22.) He added, “Because if you make spending more attractive, I’ll do more spending, . . . based on that and the notion that complementarity is going to run in both directions, and the empirical results that I see, I reached the conclusion that cards are a determinative of spending based on the data and changes and card uses in spending within individuals.” (*Id.* at 683:23–684:5.)

The Court does not exclude Professor Murphy's regression as irrelevant. Professor Murphy does not claim that his VPPS regression shows that higher rewards cause more spending. (*See* Murphy Rep. ¶ 231 (stating that his results "indicate that credit cards are associated with an increase in overall spending").) Nor do the Target Plaintiffs argue that Professor Murphy makes such a claim. (*See* Target Murphy Excl. Mem. 16 ("Professor Murphy concludes only that acquiring cards with greater rewards is 'associated with' increased spending.")) Rather, the Target Plaintiffs' concern is that because the regression shows only an association between rewards and spending, "his opinion is unreliable as evidence of causation and is irrelevant." (*Id.* at 17.) In his report, however, Professor Murphy properly presents the results of the regression as "consistent with [his] model of payment card economics" because "[t]he cardholder benefits provided by general purpose credit cards . . . are associated with expanded aggregate spending and thus benefit merchants by increasing their sales." (Murphy Rep. ¶ 237.) The fact that a regression can show correlation but not causation is insufficient grounds to exclude the regression as irrelevant. Rather, evidence of correlation is relevant because it "tends to make [a] fact of consequence to the litigation" (namely, that rewards cards increase spending) "more or less probable." *Kogut v. County of Nassau*, 894 F. Supp. 2d 230, 239 (E.D.N.Y. 2012). *See Kassman v. KPMG LLP*, 416 F. Supp. 3d 252, 272 (S.D.N.Y. 2018) (noting that, although regressions did not "convincingly show that causation can be determined on a classwide basis," they did "convincingly answer [the] threshold question of correlation" and that the testimony "need only logically advance [the p]laintiffs' case" to be admissible); *see also Sergeants Benevolent Ass'n Health & Welfare Fund v. Sanofi-Aventis U.S. LLP*, 806 F.3d 71, 95–96 (2d Cir. 2015) ("Regression models are a well-known and widely accepted tool of economic analysis, and while they 'cannot explicitly determine causation or prove causality

between . . . variables,’ they can strongly support a causal relationship between two variables.” (quoting Andrew Dick & Peter Boberg, *Regression Analysis*, Antitrust 89 (Fall 2005))).

Nor is Professor Murphy’s deposition testimony — which states that “associated with” refers to a two-sided causal relationship between spending and rewards cards — a sufficient basis to exclude Professor Murphy’s regression analysis. (Murphy Dep. 680:9–681:6.) The Court agrees with the Target Plaintiffs that a claim that the regression shows a relationship in which two variables both cause each other is stronger than a claim that the variables are merely correlated, because it excludes the possibility that one variable only causes the other, or a third variable causes both. (Target Murphy Excl. Reply 7 & n.4.) It is not clear from Professor Murphy’s deposition why he believes higher rewards cards and spending both drive each other; his comments seem to be based on an understanding of spending and rewards cards as complementary, but the source of this understanding is not clear and it is not mentioned in his report. (See Murphy Dep. 680–85; Murphy Rep.) The Target Plaintiffs argue that Professor Murphy’s understanding of this relationship ignores that it is “equally, if not more, plausible” that spending and higher rewards cards are both driven by income, (Target Murphy Excl. Reply 7 n.4), although notably income was one of the variables that Professor Murphy controlled for in his regression, (Murphy Rep. ¶ 221). It is possible that Professor Murphy assumes a causal relationship between cards and spending simply because he believes he has controlled for all other possibly causal variables. (See Murphy Dep. 680:25–681:6 (stating that because he is “doing it with individuals and changes over time,” he has “evidence that these things are causally linked to one another — although maybe in both directions”).) Regardless, although Professor Murphy’s report uses the term “associated with,” it does not assert or assume that the relationship between higher rewards cards and spending is stronger than a correlation, and as the

Target Plaintiffs note, the statistical definition of “association” describes a correlation. (*See* Target Murphy Excl. Mem. 7.) The Court therefore does not exclude Professor Murphy’s regression analysis on the basis of his deposition statements. However, Professor Murphy will not be allowed to testify at trial that the relationship between higher rewards cards and spending is stronger than that supported by a reasonable interpretation of his regression results. *See In re Xerox Corp. Sec. Litig.*, 746 F. Supp. 2d 402, 415 (D. Conn. 2010) (declining to exclude expert opinions where expert made reference at his deposition to “what he felt ‘management knew or should have known,’” noting that expert’s “report does not purport to address the state of mind of the defendants” and that the expert “would not be allowed to give testimony at trial as to what management knew or should have known”).

D. Implausible data and results

The Target Plaintiffs argue that Professor Murphy’s VPPS data “has obvious credibility problems” because it is inconsistent with data showing “that the typical American household spends about 90 percent of its income.” (Target Murphy Excl. Mem. 17.) In contrast with that statistic, the Target Plaintiffs claim that Professor Murphy’s regression analysis “indicated that when a panelist receives a \$5,000 raise and moves to a higher category, the panelist spends only 10.2% of their raise.” (*Id.* at 17–18.) The Target Plaintiffs argue that this “failure to properly control for the income-to-spend relationship” inflates Professor Murphy’s estimates of the relationship between spending and rewards and “produces implausible results,” such as “the conclusion that a panelist switching from a debit card to a ‘tier 3’ American Express card will have a greater increase in spending than a panelist whose income doubles from \$50,000 to more than \$100,000.” (*Id.* at 18.) Further, “when Dr. McAfee controlled the Murphy analysis for relevant factors such as credit limit, revolver status, and unusual spending rates, the results show

no association between panelists’ rewards tier and their spending.” (*Id.*) The Target Plaintiffs cite to cases holding that analysis results that “go[] against standard microeconomic theory” or “produce[] contradictory or otherwise implausible results” are indicative of unreliable methodologies. (*Id.* (first quoting *Reed Const. Data Inc.*, 49 F. Supp. 3d at 402; and then quoting *In re LIBOR*, 299 F. Supp. 3d at 468).)

In response, Defendants argue, first, that the Target Plaintiffs improperly compare a statistic that a typical household spends 90% of its *total* income to the regression analysis’s result that a typical panelist household spends 10.2% of *increases* in its income — “an entirely different metric.” (Murphy Excl. Opp’n 32.) Second, they argue that the Target Plaintiffs ignore “the widely-accepted principle known as the Permanent Income Hypothesis (‘PIH’),” which “states that spending is generally determined on the basis of ‘permanent’ or predictable income over time; if people suddenly and temporarily have more money to spend, they tend to save it rather than spend it immediately.” (*Id.*) Because Professor Murphy’s regression “studies spending responses to *changes* in a household’s income over time, which are a mixture of transitory and permanent changes,” the result that “the response to these within-household income shocks is small” is “precisely what the PIH principle predicts.” (*Id.* at 33.)

The Court does not exclude Professor Murphy’s regression on the basis of implausible data or results. Neither the statistic that the average household spends 90% of its income nor the PIH can fully explain the plausibility or implausibility of Professor Murphy’s results. As Defendants argue, (Murphy Excl. Opp’n 32), the fact that the average household spends 90% of its income is an insufficient basis to conclude that the average household spends 90% of *increases* to its income. The PIH is specific to income increases, but it only applies to temporary income increases and it is unclear to what extent the income increases in Professor Murphy’s

regression are temporary or permanent (or to what extent the study participants regarded them as such). (*See id.*; Target Murphy Excl. Reply 8.) The Court is not convinced that Professor Murphy's results are so clearly implausible as to warrant exclusion, although the Target Plaintiffs may of course challenge the plausibility of the results on cross-examination.

The Target Plaintiffs argue that because Professor Murphy does not use the PIH in his report, Defendants may not use it to defend his results. (*Id.*) They claim that using PIH to support Professor Murphy's opinion would violate Federal Rule of Civil Procedure 26(a)(2)(B)(i), which requires "a complete report of [the expert's] opinions and 'the basis and reasons for them.'" (*Id.*) Defendants' argument, however, is not that Professor Murphy's results are accurate because he used the PIH, but that his results are accurate because they are *consistent with* the PIH — just as the Target Plaintiffs argue that Professor Murphy's results are inaccurate because they are inconsistent with other income statistics. At issue is not what was in Professor Murphy's mind when he produced his analysis, but whether his results are plausible given what is known about the relationship between consumer income and spending.

The Target Plaintiffs further argue that "the Permanent Income Hypothesis cannot solve flaws in a regression that assumes income changes are transitory, nor is it valid without using data on permanent income to explain credit card usage." (*Id.* at 8–9.) However, it does not seem necessary to assume that all income changes are transitory for the PIH to be relevant; rather, it is enough to assume that the changes are "a mixture of transitory and permanent changes." (Murphy Excl. Opp'n 33.) (Further, since the PIH holds that "people's consumption decisions depend on *expected* lifetime income," what is relevant is not just whether the income changes are permanent or temporary but whether the recipient *believes* they are permanent or temporary. Daniel Shaviro, *Beyond the Pro-Consumption Tax Consensus*, 60 Stan. L. Rev. 745, 745 (2007).)

Although it is somewhat unclear, the Target Plaintiffs also appear to argue that Professor Murphy's regression is not valid because it does not "us[e] data on permanent income." (Target Murphy Excl. Reply 8–9.) It is not clear why Professor Murphy's regression would be rendered invalid by the fact that its data reflects temporary as well as permanent income changes.

The Target Plaintiffs claim that *Reed Construction Data* is "instructive," but that case is distinguishable. (See Target Murphy Excl. Mem. 18.) In *Reed Construction Data*, the defendants argued that the plaintiff's expert "finds a price effect without any corresponding quantity effect: that is, he finds that the misconduct differentially affected the *prices* that consumers were willing to pay for each of the two competitors' services, but had no effect on *how much* customers chose one over the other." *Reed Const. Data Inc.*, 49 F. Supp. 3d at 402. The court found that this "goes against standard economic theory, which predicts that in almost all markets, an increase in the price of a good leads to a decrease in the quantity of that good the market demands." *Id.* It found that this problem was "persuasive" and "contribute[d] to a finding that [the expert's] analysis is inadmissible under *Daubert*." *Id.* at 403. The Target Plaintiffs do not argue that Professor Murphy violates "standard economic theory," but rather that his regression indicates an income-to-spending ratio that is out of line with the typical American household. (Target Murphy Excl. Mem. 17.) Because the Target Plaintiffs use a statistic describing household income rather than increases in household income, and because Defendants identify a theory that tends to support Professor Murphy's regression result, the Court finds the problem identified by the Target Plaintiffs less "persuasive" than that in *Reed Construction Data*. *Reed Const. Data Inc.*, 49 F. Supp. 3d at 403.

2. IRI regression analysis

A. Subject of IRI regressions

The Target Plaintiffs claim that Professor Murphy’s IRI regressions “use[] the number of credit cards and the amount of credit per household . . . as effective ‘proxies’ for the interchange fees paid by the grocery stores” in the IRI data. (Target Murphy Excl. Mem. 20.) They argue that Professor Murphy “did not explain why he used *proxies* rather than requesting actual data from Visa or Mastercard on actual acceptance costs at the grocery stores”; did not explain “why interchange fees would be higher in trade areas with more credit cards per household”; and did not explain “why credit limit per household would be a reasonable proxy for interchange fees paid for purchase at stores.” (*Id.* at 20–21.) The Target Plaintiffs point to Dr. McAfee’s analysis of Professor Murphy’s proxies, which “compar[ed] actual data from Target to Professor Murphy’s proxy data” and found that the proxies “are ‘not informative about grocery stores’ actual interchange fees and credit card sales.’” (*Id.* at 21.)

In response, Defendants argue that Professor Murphy conducted the IRI regressions “for the limited purpose of whether credit card usage leads to higher retail prices” and “used data about credit card and card availability as a proxy for credit card usage.” (Murphy Excl. Opp’n 34.) They argue that the Target Plaintiffs’ criticisms that the regressions use data “pertaining to credit availability . . . rather than interchange data” and do not “measure the effect of increases in *interchange* on retail prices” are misplaced because Professor Murphy “did not seek to measure the effect of increases in interchange on retail prices”; rather, he “intended to measure the effect of credit availability on retail prices.” (*Id.* at 34–35.)

In his report, Professor Murphy cites to Plaintiffs’ experts’ claims that default interchange rates and the challenged rules “force merchants to charge higher retail prices to non-

cardholding customers.” (Murphy Rep. ¶ 258.) He argues that Plaintiffs’ experts “provide no evidence whatsoever that credit cards affect retail prices” and that economic theory indicates that payment card usage would actually reduce retail prices “by making merchant-specific demand more elastic, which causes merchants to price more aggressively.” (*Id.*) He claims that the “[e]mpirical evidence” presented below “supports this hypothesis.” (*Id.*) After explaining why he believes payment cards make demand more elastic, (*id.* ¶¶ 259–261), Professor Murphy states that he has “examine[d] the question of whether higher credit-card usage is associated with lower average retail prices,” noting that “[t]he impact of credit-card usage on demand elasticity and prices could come from any of the effects described above — increased access to credit, greater ability to respond to unexpected opportunities, greater access to internet retailers, or the broader options afforded by universal acceptance.” (*Id.* ¶ 264.) Professor Murphy uses “data on household access to credit cards from TransUnion for June 2009” combined with two types of data from IRI: “(1) a database on reported household-level purchases by participating panelists” and “(2) point-of-sale price and quantity data for 350 individual grocery stores.” (*Id.*) He then performs two regression analyses — each using a different way of determining which individuals shop at which stores — that he claims “show that the evidence does not support the Plaintiffs’ hypothesis that increased credit card and credit availability for a store’s shoppers is associated with higher prices.” (*Id.* ¶¶ 265–270.) In fact, his results “show that an increase in credit availability within a trade area is associated with a statistically significant decrease in the average prices of several product categories.” (*Id.* ¶ 271.) For other product categories, “the change in average price associated with an increase in credit availability is not statistically different from zero.” (*Id.*) Professor Murphy concludes that contrary to Plaintiffs’ experts’ claims, “increased

credit card and credit availability among a store's shoppers are not associated with higher prices.” (*Id.* ¶ 272.)

The Court agrees with Defendants that Professor Murphy did not seek to measure the effect of increases in interchange on retail prices. (Murphy Excl. Opp'n 34.) Rather, his report, including the regression results, makes clear that the IRI regressions measure the relationship between credit availability (measured as card accounts and credit limit per household) and prices. (*See* Murphy Rep. ¶¶ 257–272, Ex. 27A, 27B, 28A, 28B.)

The Target Plaintiffs claim that at his deposition, Professor Murphy “sought to disavow the idea that he was using these measures as a proxy for interchange fees,” but that this is contradicted by his report's citation to “Plaintiffs' experts' reports, which are discussing how *interchange fees* increase retail prices.” (Target Murphy Excl. Mem. 20–21 n.15.) The fact that Professor Murphy cited to Plaintiffs' expert reports is an insufficient basis to conclude that the IRI regressions used credit cards and card availability as a proxy for interchange fees. (Target Murphy Excl. Mem. 20–21 n.15.) Professor Murphy's purpose in citing to Plaintiffs' expert reports was to argue that although “Plaintiffs' experts[] claim that card usage increases retail prices,” his own work showed no association between card availability and prices. (Murphy Rep. ¶ 272.) The fact that Plaintiffs' experts claimed that card usage increased retail prices through a certain mechanism does not mean that Professor Murphy's analysis also evaluated the same mechanism.

In their reply memorandum, the Target Plaintiffs argue that the IRI regressions are “at best . . . a measure of whether the average number of revolving bankcard accounts per household or the average available credit limit per household affect grocery prices in the areas studied” and are therefore “irrelevan[t] . . . to the issues in this case.” (Target Reply 9.) The Court agrees

with this characterization of the regressions, but disagrees that such evidence is irrelevant. Evidence that credit availability does not increase retail prices, and actually decreases retail prices in some categories, makes it less likely that Plaintiffs' experts are correct that credit card usage increases prices. (*See, e.g.*, Expert Report of Robert G. Harris ("Harris Rep.") ¶ 596, annexed to Carney Decl. as Ex. DDX3, Docket Entry No. 8544-1.) Because it "tends to make any fact of consequence to the litigation more or less probable," the IRI regression is relevant. *Kogut*, 894 F. Supp. 2d at 239.

The Target Plaintiffs also challenge Professor Murphy's assertion that "[p]ayment cards, and credit cards in particular, make demand more elastic." (Target Murphy Excl. Mem. 22.) They argue that Professor Murphy "could have used the IRI data to directly measure the elasticity of each grocery store's demand curve" but did not do so, and "offered no real explanation for why he assumed elasticity when (if true) that could be proved readily from available data." (*Id.*) The Target Plaintiffs also cite to a "recent academic study" showing that "grocery stores with high-income or educated customers tend to face relatively *inelastic* demand." (*Id.*) Finally, they note that Professor Murphy "conceded" at his deposition that his regressions are "at most 'supportive' of his theory that increased credit card usage increases demand elasticity," and argue that this shows that "Professor Murphy's opinions about elasticity are unreliable." (*Id.*)

Defendants argue that this criticism is "without merit" because Professor Murphy "did not intend his IRI regression analysis to measure" the effects of credit card and credit availability on cardholder demand elasticity. (Murphy Excl. Opp'n 35.)

The fact that Professor Murphy did not directly measure elasticity is not a basis for excluding the IRI regression. Professor Murphy supports his claim that payment cards increase

demand elasticity by citing to academic evidence, discussing the role of the internet, making an argument based on merchants' decision not to discount or surcharge, and analogizing to an article by Professor Stiglitz. (Murphy Rep. ¶¶ 259–262.) Although he does not support his claim with an analysis of the IRI data, the standard for the admission of expert evidence does not require that an expert support his claims with a particular type of evidence. *See Fed. R. Evid.* 702 (allowing expert witnesses to testify if his “scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue,” “the testimony is based on sufficient facts or data,” “the testimony is the product of reliable principles and methods,” and “the expert has reliably applied the principles and methods to the facts of the case”). The Target Plaintiffs point to a separate academic source that tends to disprove Professor Murphy's claim, (*see* Target Murphy Excl. Mem. 22), but the existence of a single contradictory source is not grounds for exclusion. *See Strauss v. Credit Lyonnais, S.A.*, 925 F. Supp. 2d 414, 440 (E.D.N.Y. 2013) (finding that the materials the defendant cited to did not “conclusively contradict” the expert's report “such that his failure to discuss these articles could render his report fundamentally flawed” and that the defendant could “cross-examine the expert concerning the evidence or lack of evidence upon which his opinion is based”); *Korsko v. Pizarro*, No. 7-CV-1745, 2010 WL 3615021, at *6 (D. Conn. Sept. 10, 2010) (stating that if the plaintiff was aware of medical treatises or articles “contradict[ing] the written sources, training, and experience” relied on by the defendant's expert, he could question the expert “at trial regarding that contradictory information”); *Klein v. Goldfarb*, No. 03-CV-874, 2004 WL 551219, at *1 (S.D.N.Y. March 22, 2004) (stating that parties' contradictory medical affirmations “merely establish a ‘battle of the experts’”).

Finally, there is nothing problematic about Professor Murphy's "conce[ssion]" that his regression "was at most 'supportive' of his theory that increased credit card usage increases demand elasticity, conceding that the results of his regression alone are not 'definitive.'" (Target Murphy Excl. Mem. 22.) Rather, this is an accurate description of the implications of Professor Murphy's IRI regression.

B. Omitted variables bias

The Target Plaintiffs argue that the IRI regressions suffer from omitted variables bias because they "fail[] to control for obvious factors that may affect grocery store prices — like competition with another store and whether the store is in an urban or rural location." (Target Murphy Excl. Mem. 23.) They claim that when Dr. McAfee "adjusted Professor Murphy's analysis to control for these two factors," the results "indicated that Professor Murphy's analysis is the product of omitted variables bias." (*Id.*) Dr. McAfee also testified that Professor Murphy's failure to control for competition is "such an egregious application as to not meet professional standards" and that he does not know of a single other "study of pricing that doesn't include measures of competition on the right-hand side." (*Id.*)

In response, Defendants argue that many pricing studies that address markets that, like grocery retailing, are known to be highly competitive "do not include competition as an independent variable." (Murphy Excl. Opp'n 38.) Further, they claim that when Dr. McAfee "included his measure of competition" in his model, "his results were not materially different from Professor Murphy's results." (*Id.*) Defendants claim that when Dr. McAfee controlled for the two variables he identifies, "the coefficient on credit card accounts in Professor Murphy's regression changed from -.0031 to -.00205" and the coefficient on credit limit per household "similarly changed from -.0002 to -.000153." (*Id.* at 38 n.124.) They note that the values did not

change from negative to positive and that the coefficient on credit limit per household “is unchanged out to four decimal places.” (*Id.*) Defendants also claim that Dr. McAfee conceded at his deposition that “his results are consistent with Professor Murphy’s conclusion that there is no statistically significant positive correlation between credit availability, credit card usage, and retail prices.” (*Id.* at 39.)

Professor Murphy’s IRI regressions “include controls for panelist education, income, family size, whether the panelist rents or owns his or her residence and race/ethnicity.” (Murphy Rep. ¶ 264 n.347; *see also* Murphy Rep. Appendix E ¶¶ 4, 8.) In his report, Dr. McAfee states that when he controls for “grocery store competition and measures of how suburban or urban grocery stores’ trade areas are, the resulting changes in the estimated relationships between grocery prices and Prof. Murphy’s TransUnion credit measures suggest that Prof. Murphy’s regressions are beset by omitted variables bias (even with his demographic control variables).” (McAfee Rep. ¶ 236.) He claims that when he controls for these two factors, “the estimated coefficients on Prof. Murphy’s credit measures almost always increase in magnitude, which indicates omitted variable bias.” (*Id.* ¶ 238.) As Defendants claim, the coefficients on credit accounts per household and credit limit per household increased from -0.0031 to -0.00205 and -0.0002 to -0.000153 after Dr. McAfee added his controls. (*Id.*) The estimated coefficients in Professor Murphy’s credit measures also “increase[d] in every product category” in Professor Murphy’s first regression “and in eight of ten product categories” in his second regression. (*Id.*) At his deposition, Dr. McAfee was asked whether the difference between the coefficients in his study and the coefficients in Professor Murphy’s study were statistically significant. (McAfee Dep. 277:8–11.) He said that he had not tested for statistical significance and that he was primarily looking at “just the signs” because Professor Murphy “wants to claim that . . .

generally credit cards have negative signs.” (*Id.* at 277:12–15.) Opposing counsel replied that Professor Murphy’s claim “was not that there is a negative correlation between credit availability and prices,” but rather that there is “no evidence [of] a positive correlation between credit availability and prices.” (*Id.* at 277:21–278:3.) He asked whether Dr. McAfee had disproved this lack of positive correlation. (*Id.* at 278:4–6.) Dr. McAfee seemed to reply that although there is a test to determine whether a positive correlation exists, he has “not carried out that test.” (*Id.* at 278:7–22.)

The Court does not exclude Professor Murphy’s IRI regressions on the basis of omitted variable bias. The fact that Dr. McAfee’s controls did not hugely change the results and in particular did not change the relationship from negative to positive persuades the Court that Dr. McAfee did not exclude “major variables” that are “fatal to the analysis.” *Reed Const. Data Inc.*, 49 F. Supp. 3d at 400–01.

C. Statistical power

The Target Plaintiffs argue that detecting the effect of interchange fees on individual product prices “is challenging because the variation in interchange fees across merchants and geographies is small.” (Target Murphy Excl. Mem. 23.) They claim that “Dr. McAfee’s calculations show that Professor Murphy’s IRI regression analysis does not have sufficient statistical power to distinguish between a world where grocery store prices are unrelated to interchange fees and a world where customers pay 100 percent of interchange fees,” and that the IRI regressions therefore “cannot reliably be used to draw conclusions about the effect of interchange on grocery store prices.” (*Id.* at 24.)

In response, Defendants claim that this argument fails because “the IRI regression analysis was not intended to permit Professor Murphy to draw” conclusions about the effect of interchange on grocery store prices. (Murphy Excl. Opp’n 35)

The Court does not exclude Professor Murphy’s IRI regressions for lack of statistical power. Dr. McAfee’s analysis purports to show that the IRI regressions “contain[] practically zero information about the effect of interchange (or lack thereof) on prices.” (McAfee Rep. ¶ 225.) However, Professor Murphy’s IRI regressions do not purport to reveal the effect of interchange on prices, and Professor Murphy theorizes that higher credit-card usage could be associated with lower retail prices because of “increased access to credit, greater ability to respond to unexpected opportunities, greater access to internet retailers, [and] the broader options afforded by universal acceptance.” (Murphy Rep. ¶ 263.) Nor does the Court exclude Professor Murphy’s claims that his regression results undermine Plaintiffs’ experts’ claims that high interchange has led to higher retail prices, (*see id.* ¶ 258), although the Target Plaintiffs may seek to undermine this claim by pointing to the regression’s lack of statistical power.

D. Unwarranted assumptions

The Target Plaintiffs claim that the IRI analysis “is based on the assumption that grocery stores set prices on a store-by-store basis in response to the characteristics of shoppers at the store, even if the store is part of a large chain.” (Target Murphy Excl. Mem. 24.) They cite to a study finding that most chains set prices uniformly across stores and data showing that chains account for a large percentage of grocery sales. (*Id.* at 24–25.) The Target Plaintiffs also claim that “[w]hen Dr. McAfee modified Professor Murphy’s regression analysis to explain prices at the chain level rather than the store level, the results were reversed.” (*Id.* at 25.)

In response, Defendants argue that the evidence indicates that even chain grocery stores set prices on a store-by-store basis. (Murphy Excl. Opp’n 39.) They argue that even the study on which the Target Plaintiffs rely found that “37.8% of individual product prices within the same chain were not ‘reasonably close’ across stores,” and that Dr. McAfee’s own calculation found that 62.4% of product prices within the same chain were not reasonably close. (*Id.*) Defendants also argue that Dr. McAfee’s alternative regression “significantly reduced the data set” and “eliminated price differences that are relevant to [P]laintiffs’ claims,” making his result unreliable. (*Id.* at 40.) Finally, they argue that even the results of this alternative regression are “fully consistent with Professor Murphy’s results because neither study found a statistically significant positive relationship between credit cards and retail prices.” (*Id.*)

Dr. McAfee states that DellaVigna and Gentzkow found that prices at two grocery stores “are very closely correlated (0.809) when the two stores are part of the same chain and uncorrelated (0.089) when the stores are not part of the same chain.”¹¹ (McAfee Rep. ¶ 229.) They also find that “62.2% of prices within the same chain are reasonably close but only 10.4% of prices set in different chains are.” (*Id.* ¶ 229 n.254.) When Dr. McAfee performs the same calculations, he finds that “prices are much more closely correlated when the stores are part of the same chain (0.704) [than] when they are not (0.116)” and that 37.6% of prices within the same chain were reasonably close, but that this was true of only 7.4% of prices in different chains. (*Id.*) Dr. McAfee then “estimate[s] Prof. Murphy’s IRI regressions at the chain level,” (*id.* ¶ 230), concluding that his alternative models “show a weak *positive* relationship between

¹¹ According to Dr. McAfee, DellaVigna and Gentzkow analyze “scanner data similar in nature to Prof. Murphy’s, except it covers ten years, forty product modules, and over nine thousand grocery stores.” (McAfee Rep. ¶ 191 n.188. (citing Stefano DellaVigna & Matthew Gentzkow, *Uniform Pricing in US Retail Chains*, 134 Q. J. of Econ. 2011 (2019)).)

Prof. Murphy’s credit measures and grocery prices.” (*Id.* ¶ 231.) “At the chain level,” Dr. McAfee finds “statistically insignificant positive relationships between grocery prices and the TransUnion measures of credit cards per household . . . and credit limit per household.” (*Id.*) He also finds “positive relationships for eight of the ten [product] categories” when controlling for credit cards per household and for six of ten product categories when controlling for credit limit per household. (*Id.*)¹²

Given the relative weakness of Dr. McAfee’s results, the Court concludes that even if Professor Murphy’s analysis of prices on the store level rather than the chain level is a flaw, it is not such a significant flaw that he “lacks ‘good grounds’ for his . . . conclusions.” *Amorgianos*, 303 F.3d at 267 (quoting *In re Paoli*, 35 F.3d at 746). Rather, the Target Plaintiffs may challenge Professor Murphy’s regressions through “[v]igorous cross-examination” and “presentation of contrary evidence,” including on the topic of chain stores. *Daubert*, 509 U.S. at 596.

v. Professor Murphy’s “public good” and fragmentation opinions

The Target Plaintiffs “incorporate . . . in full” The Home Depot and the 7-Eleven Plaintiffs’ challenges to Professor Murphy’s “public good” and fragmentation opinions. (Target Murphy Excl. Mem. 25.) The Court addresses those arguments in the Memorandum and Order deciding The Home Depot and the 7-Eleven Plaintiffs’ motions to exclude, and ultimately declines to exclude Professor Murphy’s opinions.

¹² The Court is unable to analyze Dr. McAfee’s results beyond the description in the body of his report because Exhibits 19a and 19b are not included in the versions of the report attached by the parties as exhibits. (See McAfee Rep.; Expert Report of Dr. R. Preston McAfee, annexed to Carney Decl. as Ex. DDX147, Docket Entry No. 8547-7.)

vi. Conclusion

The Court denies the Target Plaintiffs' motion to exclude Professor Murphy's report and opinions in part.

III. Conclusion

For the foregoing reasons, the Court denies the Target Plaintiffs' motions to exclude the report and opinions of Dr. Lerner and Professor Murphy.

Dated: October 8, 2022
Brooklyn, New York

SO ORDERED:

/s/ MKB

MARGO K. BRODIE
United States District Judge